STATE OF SOUTH CAROLINA

BEFORE THE PUBLIC SERVICE COMMISSION

DOCKET NO. 2019-184-E

In the Matter of: South Carolina Energy Freedom Act (H.3659) Proceeding to Establish Dominion Energy South Carolina's Standard Offer, Avoided Cost Methodologies, Form Contract Power Purchase Agreements, Commitment to Sell Forms, and Any Other Terms or Conditions Necessary (Includes Small Power Producers as Defined in 16 United States Code 796, as Amended) - S.C. Code Ann. Section 58-41-20(A)	**SOUTHERN ALLIANCE FOR CLEAN ENERGY AND SOUTH CAROLINA COASTAL CONSERVATION LEAGUE'S PETITION FOR RECONSIDERATION OR REHEARING**

INTRODUCTION

The South Carolina Coastal Conservation League ("CCL") and Southern Alliance for Clean Energy ("SACE") (collectively, the "Conservation Groups") respectfully petition the Public Service Commission of South Carolina ("Commission") for reconsideration or rehearing of its December 9, 2019 Order on Avoided Costs and Related Issues (the "Order") in the above-captioned matter. More specifically, the Conservation Groups request reconsideration or rehearing of the Commission's determinations regarding Dominion Energy South Carolina's ("DESC" or "the Company") proposed solar integration charges. Conservation Groups request that the Commission not impose any solar integration charge at this time and reject the $2.29 per

megawatt hour ("MWh") interim integration charge, due to DESC's failure to meet its burden of proof on this issue. Conservation Groups also join in and expressly adopt by reference the petition for rehearing or reconsideration filed by South Carolina Solar Business Alliance ("SBA") and Johnson Development and Associates ("JDA") in this proceeding, addressing additional issues including quantification of avoided energy rates and standard contract length.[1]

Commission Order 2019-847, issued on December 9, 2019, will stifle solar energy deployment in South Carolina, contravening the intent of the South Carolina General Assembly in passing the Energy Freedom Act ("EFA") and the U.S. Congress in passing the Public Utilities Regulatory Policies Act ("PURPA"). Both the EFA and PURPA are meant to encourage the development of independently produced renewable energy.[2] The Commission approved avoided energy rates of $0.02112 per kWh for 2020-2024 and $0.02375 per kWh for 2025-2029, and an interim integration charge of $0.0229 per kWh (or $2.29/MWh). The mismatch between these very low rates DESC offers competing power providers and the much higher rates DESC charges to customers lies at the heart of this case. In this proceeding, DESC has proposed, and the Commission has approved, rates that are so low as to block entrants to the market. At the same time,

[1] As SBA Witness Levitas testified during the proceeding, whether a particular contract length is financeable cannot be considered in a vacuum. It is integrally tied to avoided cost rates. Tr. Vol. 2, p. 451.9, ll. 16-21; p. 484, ll. 11-25.

[2] As the U.S. Supreme Court has recognized, "Section 210 of PURPA was designed to encourage the development of cogeneration and small power production facilities." *American Paper Inst. v. Am. Elec. Power Serv. Corp.*, 461 US 402, 405 (1983). In enacting PURPA, "Congress believed that increased use of [renewable energy] would reduce the demand for traditional fossil fuels" and it recognized that electric utilities have traditionally been "*reluctant* to purchase power from, and to sell power to, the nontraditional facilities." *FERC v. Mississippi*, 456 U.S. 742, 750 (1982) (emphasis added). Likewise, under the South Carolina Energy Freedom Act, the Commission "shall treat small power producers on a fair and equal footing with electrical utility-owned resources" by ensuring that rates accurately reflect avoided costs; that power purchase agreements and related terms and conditions are commercially reasonable and consistent with federal law; and that avoided energy, capacity, and ancillary services are fairly quantified. S.C. Code 58-41-20(B).

DESC continues to recover significant costs based on the continued operation of the Company's self-owned generation fleet, which generates energy—and charges customers—at a rate that far exceeds the rate offered by DESC to independent power providers.

Conservation Groups do not contend it was the Commission's intent to discourage the deployment of independently produced renewable energy. But the dramatic impact of the Commission's Dec. 9 ruling along with the novel issues raised by the first-ever application of the EFA's avoided cost provisions merits the Commission reconsidering certain key issues in this proceeding. One of these issues is the interim integration charge approved by the Commission, which is the focus of this petition for reconsideration or rehearing.

Other critical issues determined by the Commission in the Order include quantification of avoided energy costs and contract length. On those issues, Conservation Groups have reviewed the petition for rehearing or reconsideration by SBA and JDA. Conservation Groups hereby adopt and incorporate by reference the SBA and JDA petition for reconsideration or rehearing.

APPLICABLE LAW

South Carolina Law Governing the Standard of Review in This Proceeding

Relevant to this petition and that filed by SBA and JDA, it is fundamental that a utility appearing before the Commission bears the burden of proof of showing that its proposed rates and expenses are just and reasonable. *In Re Carolina Water Serv. Inc.*, Docket No. 2006-92-WS, Order No. 2007-140, 2007 WL 4944726 (S.C. P.S.C. Nov. 19,

2007) ("The applicant bears the burden of proof of showing that its proposed rates are just and reasonable."); *See Utility Services of South Carolina, Inc. v SC Office of Reg. Staff*, 708 S.E.2d 755, 398 S.C. 96, 110 (2011) ("[T]he burden remains on the utility to demonstrate the reasonableness of its costs."); *Hamm v. South Carolina Public Service Comm'n*, 309 S.C. 282, 422 S.E.2d 110 ("The ultimate burden … remains on the utility.").

The South Carolina Supreme Court has described the burden of proof that utilities must carry in *Hamm*: utilities enjoy an initial presumption that their rates and expenses are "reasonable and incurred in good faith," but once an intervening party or the Commission demonstrates a "tenable basis for raising the specter of imprudence" that presumption of reasonableness dissipates and the utility bears the burden to "further substantiate its claim[s]." *Id.* 309 S.C. at 286, 422 S.E.2d at 112; *see also Utilities Servs. of S.C., Inc. v. S.C. Office of Regulatory Staff*, 392 S.C. 96, 110, 708 S.E.2d 755, 763 (2011). The presumption of reasonableness in favor of the utility does not shift the ultimate burden of persuasion, which remains with the utility, but "shifts the burden of production on to the Commission or other contesting party to demonstrate a tenable basis for raising the specter of imprudence." *Hamm*, 309 S.C. 286, 422 S.E.2d at 112.

In evaluating a utility's proposals, the Commission is required to first consider whether, based on the record, the Commission or an intervening party has demonstrated a "tenable basis for raising the specter of imprudence" that rebuts the presumption of reasonableness in favor of the utility. *Hamm*, 309 S.C. at 286; 422 S.E.2d at 122. If this burden of production has been met, the Commission must determine whether the utility has "further substantiate[d]" its claim, *id.*; *Utility Servs. Of S.C., Inc.*, 392 SC. At 110,

708 S.E.2d at 763, in a manner that meets the utility's ultimate burden of proof. *Hamm*, 309 S.C. at 286-87, 422 S.E.2d at 112-13 ("[t]he ultimate burden… remains on the utility.") (citing *Hamm v. S.C. Pub. Serv. Comm'n*, 291 S.C. 119, 352 S.E.2d 476 (1987)).

South Carolina Law Governing Commission Decisions, Petitions for Reconsideration and Rehearing

S.C. Code Ann. Section 58-27-2100 provides that "[a]fter the conclusion of a hearing, the Commission shall make and file its findings and order with its opinion, if any. Its findings shall be in sufficient detail to enable the court of review to determine the controverted questions presented by the proceeding and whether proper weight was given to the evidence." S.C. Code Ann. § 58-27-2100.

Pursuant to S.C. Code Ann. Section 58-27-2150, a party may petition the Commission for reconsideration or rehearing in respect to any matter determined in the proceeding. "The purpose of a petition for rehearing and/or reconsideration is to allow the Commission the discretion to rehear and/or reexamine the merits of issued orders pursuant to legal or factual questions raised about those orders by parties in interest, prior to a possible appeal." *In re: South Carolina Electric & Gas Co.*, Order No. 2013-5 (Feb. 14, 2013).

A petition for rehearing or reconsideration must include: "(a) [t]he factual and legal issues forming the basis for the petition; (b) [t]he alleged error or errors in the Commission order; [and] (c) [t]the statutory provision or other authority upon which the petition is based." S.C. Code Ann. Regs. § 103-825(A)(4).

The Commission must have substantial evidence to support it decisions. *Porter v. S.C. Public Service Comm'n*, 333 S.C. 12, 20 (1998). Substantial evidence is relevant evidence that, considering the record as a whole, a reasonable mind would accept to support an administrative agency's action. *Id.* The Commission must fully document its findings of fact and base its decision on reliable, probative, and substantial evidence in the whole record. *Id.* at 21. It must make findings that are sufficiently detailed to enable the Court to determine whether the findings are supported by the evidence and whether the law has been applied properly to those findings. *Id.*

Regarding factual findings, the Commission must make "explicit findings of fact which allow meaningful appellate review." *Seabrook v. S.C. Public Service Comm'n*, 401 S.E.2d 672, 674, 303 S.C. 493, 497 (1991). Where material facts are in dispute, the Commission must make specific, express findings of fact. *Porter v. S.C. Public Service Comm'n*, 507 S.E.s2 at 332, 333 S.C. at 21. A recital of conflicting testimony followed by a general conclusion is patently insufficient to enable a reviewing court to address the issues. *Id.*

South Carolina Energy Freedom Act

The South Carolina Energy Freedom Act, designed to encourage renewable energy and independent power production, requires that at least once every twenty-four months, the Commission shall approve each electrical utility's standard offer, avoided cost methodologies, form contract power purchase agreements, commitment to sell forms, and any other terms or conditions necessary to implement the EFA. S.C. Code Ann. § 58-41-20(A). The EFA provides that any decision by the Commission:

> shall be just and reasonable to the ratepayers of the electrical utility, in the public interest, consistent with PURPA and the Federal Energy Regulatory

> Commission's implementing regulations and order, and nondiscriminatory to small power producers; and shall strive to reduce the risk placed on the using and consuming public.

Id. The EFA further requires that in these proceedings, "the commission shall treat small power producers on a fair and equal footing with electrical utility-owned resources" by ensuring that "rates for the purchase of energy and capacity *fully and accurately* reflect the electrical utility's avoided costs" *Id.* § 58-41-20(B)(1) (emphasis added). The Act directs that power purchase agreements, including terms and conditions, "are commercially reasonable" and consistent with PURPA, and that each electrical utility's avoided cost methodology "fairly accounts" for costs avoided or incurred "including, but not limited to energy, capacity, and ancillary services" for small power producers, including "those utilizing energy storage equipment." *Id.* § 58-41-20 (B)(2),(3).

The EFA requires Commission decisions in avoided cost dockets to be consistent with PURPA, and the Federal Energy Regulatory Commission's implementing regulations and orders. S.C. Code Ann. § 58-41-20(A).

The EFA also directs the Commission to "engage, for each utility, a qualified independent third party to submit a report that includes the third party's independently derived conclusions as to that third party's opinion of each utility's calculation of avoided costs for purposes of proceedings conducted pursuant to this section." S.C. Code Ann. § 58-41-20(I). The Commission retained Power Advisory, LLC, as its independent third party consultant pursuant to the EFA.

Finally, the EFA applies a heightened standard of transparency on utility avoided cost filings by requiring that

> Each electrical utility's avoided cost filing must be reasonably transparent so that underlying assumptions, data, and results can be independently

> reviewed and verified by the parties and the commission. The commission may approve any confidentiality protections necessary to allow for independent review and verification of the avoided cost filing.

SC Code Ann. § 58-41-20(J). The statute thus requires transparency regarding assumptions, data, and results, in such a way that not only the parties, but also the Commission can effectively review the elements and calculations that give rise to avoided cost rates.

Public Utilities Regulatory Policies Act

Section 210 of PURPA and the regulation promulgated pursuant thereto by FERC establish the responsibilities of FERC and state regulatory authorities, including this Commission, to encourage the development of cogeneration and small power production facilities. Under Section 210 of PURPA, cogeneration facilities and small power production facilities that meet certain standards can become "qualifying facilities" ("QFs") and thus become eligible for the rates and exemptions established in accordance with Section 210 of PURPA. 16 U.S.C. § 824a-3(d).

Each utility is required under Section 210 of PURPA to purchase available electric energy from cogeneration and small power production facilities that obtain QF status. *Id.* § 824a-3(a). For such purchases, electric utilities are required to pay rates that are just and reasonable to the ratepayers of the utility, are in the public interest, and do not discriminate against cogenerators or small power producers. *Id.* § 824a-3(b). FERC regulations require that the rates electric utilities pay to purchase electric energy and capacity from qualifying cogenerators and small power producers reflect the cost that the purchasing utility can avoid as a result of obtaining energy and capacity from these

sources, rather than generating an equivalent amount of energy itself or purchasing the energy or capacity from other suppliers.

With respect to electric utilities subject to state jurisdiction, FERC delegates the implementation of these rules by the issuance of regulations, on a case-by-case basis, or by any other means reasonably designated to give effect to FERC's rules. However, in evaluating the evidence before it in this proceeding, the Commission is bound to comply with PURPA's minimum requirements. *E.g.*, C.F.R. § 292.303(a) (requiring utility to purchase "any energy and capacity made available from qualifying facility"); 18 C.F.R. § 292.304(e)(2) (utility must pay for "daily and seasonal" capacity value); 16 U.S.C. § 824a-3(b); 18 C.F.R. § 292.304(a)(1) (rates "shall not discriminate" against QFs).

The Commission must also remain mindful of PURPA's overall aims, and the pro-consumer, competitive effects that it enables. *See Kamine/Besicorp Allegany L.P.*, 908 F. Supp. 1180, 1192 (W.D.N.Y. 1995) ("effect of PURPA is to *introduce new energy producers into the marketplace*" and stating that if "traditional utilities were successful in excluding [QFs]," that could "reduce *competition*") (emphasis added); *In re Renewable Energy Certificates*, 389 N.J. Super. 481, 486 (N.J. Super. Ct. App. Div. 2007) ("Congress enacted the Public Utility Regulatory Policies Act of 1978 . . . *to increase competition* in the production of electricity and reliance on renewable energy.") (emphasis added); *State ex rel. Sandel v. New Mexico Public Utility Com'n*, 127 N.M. 272, 275, 980 P.2d 55, 58 (N.M. 1999) ("*Congress introduced competition* into the generation component of the electric power industry by enacting the Public Utility Regulatory Policies Act of 1978.") (emphasis added). As the U.S. Supreme Court has recognized, "Section 210 of PURPA was designed to encourage the development of

cogeneration and small power production facilities." *American Paper Inst. v. Am. Elec. Power Serv. Corp.*, 461 US 402, 405 (1983). In enacting PURPA, "Congress believed that increased use [renewable energy] would reduce the demand for traditional fossil fuels" and it recognized that electric utilities have traditionally been "*reluctant* to purchase power from, and to sell power to, the nontraditional facilities." *FERC v. Mississippi*, 456 U.S. 742, 750 (1982) (emphasis added).

FACTS

In this proceeding DESC proposed to impose for the first time a Variable Integration Charge ("VIC") and an Embedded Integration Charge ("EIC") specific to solar QFs. DESC proposed to apply the VIC to existing Power Purchase Agreements ("PPAs") with a VIC clause, and factor the EIC into the Company's avoided energy costs.[3] DESC proposed a VIC of $4.14/MWh for the existing PPAs,[4] and an EIC of approximately $7/MWh in 2020-24 and $10/MWh in 2025-29 for new PPAs.[5]

As described in the Commission's Order, ORS Witness Horii, SBA Witness Burgess, and the Conservation Groups' Witness Stenclik, along with the Commission's qualified independent consultant, Power Advisory, all extensively challenged the underlying assumptions and inputs for DESC's proposed VIC and EIC.[6] Consistent with

[3] Tr. Vol. 1, p. 59.14, ll. 1-13. Witness Kassis adopted DESC Witness John E. Folsom, Jr.'s prefiled testimony. Tr. Vol. 1, p. 66.3, l.10-15

[4] Tr. Vol. 1, p. 59.15, l. 9 – p. 59.16, l. 15.

[5] Docket 2019-184-E Independent Consultant Final Report at p. 6, Fig. 1 (hereinafter "Power Advisory Report").; Tr. Vol. 2, p. 523.82, ll. 10-17 (SBA Witness Burgess concluding that DESC's proposed EIC was at least $6.70/MWh in the near-term).

[6] Tr. Vol. 2, p. 629.5-629.9 (SACE Witness Stenclik critiquing the Navigant *Cost of Variable Integration Study* underlying the proposed EIC); Tr. Vol. 2, p. 695.10-695.31 (ORS Witness Horii critiquing the Navigant *Cost of Variable Integration Study* methodology and DESC's internal calculation of the proposed VIC); Tr. Vol. 2, p. 523.62-629.5 (SBA Witness Burgess critiquing DESC's internal analysis underlying the proposed EIC and the Navigant *Cost of Variable Integration Study* underlying the proposed VIC). Because the Commission adopted the $2.29/MWh interim integration charge to

the objections raised by Witness Horii, Burgess, and Stenclik, Power Advisory concluded that "DESC's proposed values for the VIC, and solar integration costs embedded in its proposed avoided costs, are *not adequately supported by the evidence*[.]"[7] Witness Horii, Witness, Burgess, Witness Stenclik, and Power Advisory all agreed that any future proposed solar integration charges (or updates) should be developed through a process that includes stakeholders and independent technical experts, and recommended that the Commission initiate the independent solar integration study contemplated by the EFA, S.C. Code Ann. § 58-37-60(A).[8]

The failure of DESC to meet its statutory requirement regarding transparency also drew objections. Power Advisory concluded that DESC had not "satisfied the transparency standard outlined in Act 62,"[9] and stated that DESC's lack of transparency "limited [Power Advisory's] ability to reach conclusions in a number of areas."[10] DESC's lack of transparency included failure to identify data structure or format, and providing data forms that "required substantial effort to digest … [where] [Power Advisory] would expect that basic data to support the avoided cost estimates could be provided as part of the initial filing."[11] Due to this lack of transparency, Power Advisory concluded that "significant questions . . . cannot be answered with the information provided. While hourly avoided costs data was provided, other data required to fully vet

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effectively replace the proposed VIC and EIC, and that value was derived from the Navigant Study, the flaws with the Navigant Study are the primary focus of this petition. DESC's internal analysis underlying the initially proposed EIC was also fundamentally flawed.

[7] Power Advisory Report at p. iii (emphasis added).

[8] Power Advisory Report at iii; Tr. Vol. 2, p. 695.23, l. 14 – 695.24, l. 13 (Witness Horii testifying as to the importance of involving stakeholders in the updating of variable integration charges); Tr. Vol. 2, p. 629.7, ll. 9-13 (Witness Stenclik recommending that DESC utilize a Technical Review Committee composed of independent experts to guide future integration studies); Tr. Vol. 2, p. 523.90, ll. 4-16 (Recommending that the Commission reject any proposed integration charge until the independent integration study authorized by the EFA is completed).

[9] Power Advisory Report at p. 36.

[10] Power Advisory Report at p. 4.

[11] *Id.* at p. 36.

the drivers of the avoided cost patterns" were not.[12] SBA Witness Burgess likewise testified to "many instances in which Dominion did not provide access to adequate data and modeling details to verify the reasonableness of specific methodological choices or inputs and assumptions used by DESC, or its subsequent findings."[13] Particularly relevant to this petition for reconsideration or rehearing, Witness Burgess testified that "key portions of DESC's analysis on integration costs were provided only one day before intervenor direct testimony was due, thus severely limiting [the] ability to analyze the results or serve discovery in a timely manner."[14]

Beyond issues of transparency, Witnesses for the Conservation Groups, SBA, and ORS identified multiple fundamental errors in Navigant's *Cost of Variable Integration Study* ("Navigant Study"). First, Witness Horii and Witness Stenclik both demonstrated that the Navigant Study' used of a 4-hour-ahead forecast to make decisions about requirements for flexible reserves was flawed.[15] Witness Stenclik explained: "[t]he 4-hour window does not represent state-of-the-art forecasting capability, commercial service offerings, or technical constraints… [i]n actual operations, the utility can implement a rolling solar forecast that is routinely updated at day-ahead, 4-hour ahead, 2-hour ahead, and real-time intervals."[16] Power Advisory similarly concluded that Navigant's "exclusive reliance on four-hour-ahead forecasts is overly simplistic and fails to conform with best practice."[17] Power Advisory explained that the 4-hour ahead forecast is "inconsistent with the timeframe under which reserves would be dispatched

[12] *Id.*
[13] Tr. Vol. 2, p. 527.5, ll. 17-20.
[14] Tr. Vol. 2, p. 527.5, l. 20 – p. 527.6, l. 2.
[15] Tr. Vol. 2, p. 629.5, ll. 5-13; Tr. Vol. 2, p. 697.3, ll.13-16.
[16] Stenclik Exhibit B at p. 9 (cited in Power Advisory Report at 10).
[17] Power Advisory Report at p. 12.

(which may be four hours some of the time, but will often be much shorter)."[18] This is critical because the evidence showed that the 4-hour look ahead period served to artificially increase the integration costs incurred by solar resources beyond what they in fact would incur if DESC were using industry-standard methods.[19]

Second, Witness Stenclik and Witness Horii challenged the unsupported and overly stringent risk threshold used by the Navigant Study in determining required operating reserves. They explained that imposing overly stringent operating reserve requirements unnecessarily inflates integration costs, which in turn improperly reduces avoided cost rates offered to QFs. DESC and Navigant's "operating reserve methodology used an overly stringent 99 percent confidence interval, covering all but 1 percent of solar forecast errors, which overstates the required operating reserves."[20] Effectively, this approach "goldplates" reserve requirements at the expense of solar QFs by "over-procur[ing] reserves at a []high cost and not significantly or increase[ing] reliability at all."[21] As noted by Witness Horii, "the balancing of costs and risk is a fundamental principle of electricity resource planning," yet Navigant failed to perform any balance of risk and cost in the Navigant Study.[22] Power Advisory agreed, concluding that "none of the three standards used by DESC to determine the additional reserves attributable to solar generation… have been adequately justified as a reasonable balance between costs and risks."[23]

[18] Power Advisory Report at p. 22.
[19] Tr. Vol. 2, p. 629.5, ll. 10-12 ("The analysis also used an excessive 4-hour ahead forecast, overstating the forecast error that may impact actual operations.").
[20] Tr. Vol. 2, p. 625, ll. 20-24.
[21] Tr. Vol. 2, p. 669, ll. 7-11.
[22] Tr. Vol. 2, p. 695.12, ll. 13-23; *see* Tr. Vol. 2, p. 629.5, ll.13-16.
[23] Power Advisory Report at 15.

Third, Witness Horii and Witness Burgess objected to the Navigant Study's use of maximum drops in output from the aggregate solar fleet as the solar forecast error.[24] Witness Horii testified that this approach assessing solar forecast error is inaccurate because it does not reflect the actual distribution of likely solar output or the possibility that customer demand may be lower than expected, which would lower the need for additional reserves.[25] When the potential solar output drop is reduced from the "maximum" potential drop to a more reasonable amount, the result is a lower reserve requirement and lower additional reserve costs that DESC seeks to unfairly impose on solar QFs.[26]

Fourth, Witness Stenclik expressed concern regarding the Navigant Study's requirement that fixed solar reserve requirement be imposed 8,760 regardless of whether solar QFs were operating during all of those hours.[27] Witness Stenclik explained that DESC Witness Hanzlik's testimony that the Company experienced a morning peak "just prior to sunrise… [when] solar is not available and DESC's non-solar generators are near maximum generation output levels whiles reserves are at the lowest for the day" demonstrates the significance of this error. The Study's imposition of additional solar reserve requirements when the system is most stressed, but when it is known with certainty that solar is not generating any power, dramatically and unjustifiably inflates the charge.[28] Power Advisory agreed with Witness Stenclik, finding that the imposition of additional solar reserve requirement even when solar generation was low likely

[24] Tr. Vol. 2, p. 523.81, ll. 3-10; Tr. Vol. 2, p. 695.13, ll. 7-14.
[25] Tr. Vol. 2, p. 695.13, ll. 7-14.
[26] *See* Tr. Vol. 2, p. 695.13-17 (Witness Horii explaining impact of reducing the estimated solar output drop down from the maximum amount).
See Tr. Vol. 2, p. 695.13-17 (Wi
tness Horii explaining impact of reducing the estimated

"contributed to over-estimation of the cost of maintaining additional reserves."[29] Power Advisory concluded that "DESC has not provided convincing evidence that holding constant levels of additional reserves, either in all hours… or in all solar generating hours… does not significantly overstate solar integration costs."[30]

Finally, Witness Stenclik and Witness Burgess critiqued the Navigant Study's failure to model DESC's interaction with neighboring power systems, failure to consider less costly methods of integrating renewable resources—such as increased demand response resources and new battery storage—and increased coordination or participation in a large balancing area.[31] Power Advisory agreed that "Navigant and DESC did not adequately evaluate alternative means of ensuring adequate reserves"[32]

Witness Stenclik and Witness Burgess recommended that the VIC and EIC be rejected and that the Commission require DESC to recalculate proposed integration charges based on a more accurate and reliable methodology.[33] As an alternative, Witness Burgess calculated a proposed alternative integration charge of $0.96 per MWh.

Witness Horii proposed an alternative calculation for the VIC that corrected for one of the three errors he identified: risk of solar output error. Witness Horii attempted to correct for this error by recalculating operating reserves based on 36.2% less solar forecast error than modeled in the Navigant Study.[34] This adjustment resulted in a $2.29/MWh charge.[35] Witness Horii recommended that this $2.29/MWh be used temporarily both as the VIC and EIC (the EIC reduces the prospective avoided energy

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solar output drop down from the m
aximum
amount).
2, p. 629.6, ll. 4-17; Tr. Vol. 2, p. 527.12-14.
[32] Power Advisory Report at p. 21.
[33] Tr. Vol. 2, p. 629.10, ll. 20-23; Tr. Vol. 2, p. 527.14, l. 4-p. 527.15, l. 4.
[34] Tr. Vol. 2, p. 695.13, l. 22 – p. 695.19, l. 5.
[35] *Id.*

rates), that DESC be required to update their analysis for future charges, and that as part of this update DESC be required to conduct technical workshops that involve the solar community and other stakeholders.[36]

While Power Advisory supported Witness Horii's recommendation of the temporary use of a $2.29/MWh charge, it specifically noted: "[w]e do not support the specific calculations [Witness Horii] used to arrive at $2.29/MWh, because it is based on Navigant's analysis, which is flawed in several ways, only one of which Mr. Horii attempts to correct."[37] Power Advisory nevertheless concluded that because the parties in the Duke Energy Carolinas ("DEC") and Duke Energy Progress ("DEP") avoided cost proceeding reached a settlement that accepted a solar integration charge of $1.10/MWh for DEC and $2.39/MWh for DEP, and because DESC's generation fleet shares some characteristics with DEP, it was reasonable to adopt Witness Horii's $2.29/MWh charge in the interim.[38] However, Power Advisory failed to note that the DEC/DEP integration charge settlement was expressly limited by its terms to the DEC/DEP proceedings and included a number of provisions negotiated among the parties beyond the rate for the integration charge.[39]

ARGUMENT

The Commission's Order properly rejected DESC's proposed solar integration charges (EIC and VIC), but temporarily approved an interim integration charge of

[36] Tr. Vol. 2, p. 695.23, ll. 12-18.
[37] Power Advisory Report at p. 24.
[38] *Id.*
[39] *See* Partial Settlement Agreement, Docket Nos. 2019-184-E, 2019-185-E (Oct. 21.2019) ("The Parties agree that signing this Settlement Agreement (a) will not constrain, inhibit, impair, waive, or prejudice their arguments or positions held in future or collateral proceedings; (b) will not constitute a precedent or evidence of acceptable practice in future proceedings; and (c) will not limit the relief, rates, recovery or rates of return that any Party may seek or advocate in any future proceeding.").

$2.29/MWh as both the VIC and EIC.[40] ORS Witness Horii derived the $2.29/MWh interim solar integration charge from the Navigant Study commissioned by DESC. Although Witness Horii's calculations address one error in the Navigant Study, the calculations failed to account for several other major methodological and input errors identified in Witness Horii's own testimony and by Witnesses Stenclik and Burgess, and by Power Advisory. The failure to correct those errors resulted in an interim solar integration charge that overestimates the true cost of integrating solar energy, and in rates that do not fully and accurately reflect the utility's avoided costs. Even if Witness Horii's $2.29/MWh charge is less unreasonable than DESC's proposed $4.14/MWh VIC for existing PPAs and approximately $7.00/ EIC,[41] the fact remains that this rate *is not supported by substantial evidence on the record*. Indeed, DESC did not meet its burden of proof for showing that *any* solar integration charge is warranted, particularly if such charge was derived from either the Navigant analysis or DESC's internal analysis. Nor is there sufficient evidence to support the Commission's selection of Witness Horii's $2.29/MWh charge. Finally, the selection of Witness Horii's $2.29/MWh charge over Witness Burgess's proposed $0.96/MWh proposed charge fails to address numerous remaining flaws in the underlying DESC/Navigant Study.

These three errors are addressed in more detail below. The Conservation Groups respectfully request the Commission reconsider its approval of the $2.29/MWh interim solar integration charge, and reject DESC's proposal to impose any VIC or EIC upon solar QFs at this time. In alternative, the Commission should approve a $0.96/MWh

[40] Order at pp. 30, 56, 100-101.
[41] Docket 2019-184-E Independent Consultant Final Report at p. 6, Fig. 1 (hereinafter "Power Advisory Report").; Tr. Vol. 2, p. 523.82, ll. 10-17 (SBA Witness Burgess concluding that DESC's proposed EIC was at least $670/MWh in the near-term); Tr. Vol. 1, p. 59.15, l. 9 – p. 59.16, l. 15.

interim charge based on Witness Burgess's calculations, which corrects for more of the Study's flaws.

I. There is Insufficient Evidence on the Record to Support the Imposition of any Solar Integration Charge Derived from DESC's Flawed Methodologies

DESC attempted to model its integration costs in two ways: an internal DESC analysis quantifying the EIC; and the Navigant Study quantifying the VIC. Witnesses for intervenors, including ORS, provided exhaustive evidence that neither DESC's internal analysis nor the Navigant Study accurately quantified integration costs. Witness Horii and Witness Stenclik testified that the Navigant Study's use of a 4-hour-ahead forecast to make decisions about requirements for flexible reserves was inappropriate and contrary to industry standards.[42] Witness Stenclik and Witness Horii testified that the Navigant Study inappropriately relied on an unsupported and overly stringent risk threshold.[43] Witness Horii and Witness Burgess rejected the Navigant Study's use of maximum drops in output from the aggregate solar fleet as the solar forecast error.[44] Witness Stenclik testified that Navigant Study's requirement that a fixed solar reserve requirement be imposed 8,760 hours per year—regardless of whether solar QFs were operating during all of those hours—unrealistically inflated solar integration costs.[45] Witness Stenclik and Witness Burgess also provided testimony that the Navigant Study failed to consider less costly methods of integrating renewable resources—further increasing the calculated integration costs.[46] Witness Horii and Witness Burgess testified that the 35% additional

[42] Tr. Vol. 2, p. 629.5, ll. 5-13; Tr. Vol. 2, p. 697.3, ll.13-16.
[43] Tr. Vol. 2, p. 695.12, ll. 13-23; *see* Tr. Vol. 2, p. 629.5, ll.13-16.
[44] Tr. Vol. 2, p. 523.81, ll. 3-10; Tr. Vol. 2, p. 695.13, ll. 7-14.
[45] Tr. Vol. 2, p. 629, ll. 17-20.
[46] Tr. Vol. 2, p. 629.6, ll. 4-17; Tr. Vol. 2, p. 527.12-14.

operating reserves requirement used in DESC's internal analysis underlying the EIC was likewise unrealistic, plagued with flaws, and inaccurately inflated integration costs.[47]

Power Advisory concurred with Witnesses Stenclik, Burgess, and Horii on each of these points, and Dominion did not produce evidence further substantiating its position.[48] Accordingly, there is overwhelming evidence on the record demonstrating that the methodologies used to calculate DESC's proposed solar integration charges are deeply flawed, inaccurately inflate the costs of solar integration and, by improperly decreasing the amounts paid to solar providers, violate the requirement to "fully and accurately" compensate QF's for the utility's avoided costs. S.C. Code § 58-41-20(B)(1). Exacerbating the numerous problems with DESC's analyses, the utility also failed to comply with the transparency requirements of the EFA. Power Advisory found that DESC had not "satisfied the transparency standard outlined in Act 62,"[49] and stated that DESC's lack of transparency "limited [Power Advisory's] ability to reach conclusions in a number of areas."[50]

DESC bears the burden of proof in this proceeding to demonstrate that its proposals, including any solar integration charges, are just and reasonable. DESC has failed to meet its burden of proof. Intervenors and ORS have raised "the specter of imprudence" regarding DESC's proposed solar integration charges through the introduction of significant evidence into the record demonstrating that the charges are based on deeply flawed methodologies and inappropriate inputs. DESC has failed to adequately address the methodological and input errors pointed out by intervenors, has

[47] Tr. Vol. 2, p. 695.28, ll. 4-17; Tr. Vol. 2, p. 695.26, ll. 16-19; Tr. Vol. 2, p. 523.81, l. 11 – p. 523.82, l. 17.
[48] Power Advisory Report pp. 6-21.
[49] Power Advisory Report at p. 36.
[50] Power Advisory Report at p. 4.

not "further substantiate[d]" its claim, and has not met its ultimate burden of proof in supporting its proposal to include a solar integration charge in avoided energy rates. The Commission's Order, which imposes an interim solar integration charge, lacks substantial evidentiary support because the record demonstrates that DESC has failed to carry its burden of proof to demonstrate that any solar integration charge is justified.

II. The Approved Interim Solar Integration Charge Is Based On Illusory Grounds and Improperly Overestimates Solar Integration Costs

The $2.29/MWh interim solar integration charge approved by the Commission is derived from DESC's fundamentally flawed Navigant Study, and only addresses one of the many errors in the Study. Power Advisory stated as much, noting that: "[w]e do not support the specific calculations [Witness Horii] used to arrive at $2.29/MWh, because it is based on Navigant's analysis, which is flawed in several ways only one of which Mr. Horii attempts to correct."[51]

Power Advisory's only stated reason for not altogether rejecting an interim solar integration charge was the settlement in the DEC/DEP dockets: "Power Advisory notes that a number of the parties in the DEC/DEP proceeding reached a settlement that accepted a solar integration charge of $1.10/MWh for DEC and $2.39/MWh for DEP. Based on this Power Advisory is reluctant to recommend that there be no solar integration charge."[52] The Commission should not rely on this illusory rationale for approving the interim integration charge. The DEC/DEP settlement was extrinsic to the record in this proceeding and was not even entered into by parties to the DEC/DEP proceedings until after the DESC hearing concluded. The integration charges in the

[51] Power Advisory Report at p. 24.
[52] Power Advisory Report at p. 23.

DEC/DEP settlement were also derived from wholly different integration charge studies and methodologies. Moreover, the DEC/DEP integration charge settlement was expressly limited by its terms to the DEC/DEP proceedings. Therefore relying on the settlement for the conclusion that an integration charge is necessary in another proceeding is contrary to the express terms of the settlement. Finally, the settlement included a number of provisions negotiated among the parties that led to its adoption, beyond the rate for the integration charge.[53] For these reasons, the Commission should not rely on the DEC/DEP settlement for its determination in this proceeding.

While the Commission's Order acknowledged the many methodological errors contained in the Navigant Study, which the $2.29/MWh integration charge was derived from,[54] the Order failed to make any "specific, express findings of fact" regarding these disputed issues. *See Porter v. S.C. Public Service Comm'n*, 507 S.E.s2 at 332, 333 S.C. at 21. Instead, the Order concluded with just one sentence that Witness Horii's proposed charge is "a reasonable balance of risks and costs, especially given his other concerns over the Navigant costs being biased upward."[55] The Commission has not executed its duty to "support its conclusions with factual findings…" *Seabrook v. S.C. Public Service Comm'n*, 401 S.E.2d at 674, 303 S.C. at 497. Issues that need factual findings include but may not be limited to: 1) whether or not DESC needs 4 hours of notice to respond to solar variations, 2) whether DESC must hold operational reserves related to solar duration during nighttime hours when no solar generation exists, 3) whether the level of

[53] *See* Partial Settlement Agreement, Docket Nos. 2019-184-E, 2019-185-E (Oct. 21.2019) ("The Parties agree that signing this Settlement Agreement (a) will not constrain, inhibit, impair, waive, or prejudice their arguments or positions held in future or collateral proceedings; (b) *will not constitute a precedent or evidence of acceptable practice in future proceedings*; and (c) will not limit the relief, rates, recovery or rates of return that any Party may seek or advocate in any future proceeding.") (emphasis added).
[54] Order on Avoided Costs at pp. 52-56.
[55] *Id.* at 56.

operational reserves mush be at the same high/maximum level during each hour of the day, even though reasonable forecasts of solar production will be significantly less in the morning and evening than in the middle of the day, and 4) whether DESC and Navigant's modeling actually reflect the utility's operating practices.[56]

In approving a solar integration charge that extensive evidence suggests exceeds the actual cost of solar integration, the Commission has approved a rate that is not "just and reasonable" and which fails to "fully and accurately" capture the DESC's true avoided costs. For example, the Commission's Order acknowledges that "DESC has not provided convincing evidence that holding constant levels of additional reserves… in all hours… or in all solar generating hours… does not significantly overstate solar integration costs."[57] Yet the Order approves an interim solar integration charge based on a methodology that holds constant levels of additional reserves during all hours, even when solar QFs are not generating power. Witness Horii's proposed $2.29/MWh charge does not correct for this error in the Navigant Study' methodology, and adopting it amounts to deciding a rate based an "illusory" rationale. *Heater of Seabrook, Inc. v. Public Service Commission of South Carolina*, 324 S.C. 56, 63, 478 S.E.2d 826, 829 (1996). Further, imposing costs upon solar QFs that do not accurately or fully reflect DESC's true avoided costs violates state and Federal law. S.C. Code Ann. § 58-41-20(B)(1) ("rates for the purchase of energy and capacity *fully and accurately* reflect the electrical utility's avoided costs"); 16 U.S.C. § 824a-3(b) (requiring electric utilities to pay rates that are just and reasonable… and do not discriminate against cogenerators or small power producers"). Although the $2.29/MWh interim integration charge is less

[56] *See* Partial Proposed Order of the Southern Alliance for Clean Energy and South Carolina Coastal Conservation League at pp. 44-46 (proposing findings of fact on these disputed issues).
[57] Order on Avoided Costs at p. 30.

unreasonable than DESC's initially proposed VIC and EIC, it suffers from the same underlying lack of sufficient evidentiary support.[58] For these reasons, including DESC's failure to meet its burden of proof for an interim integration charge derived from flawed analyses, Conservation Groups ask the Commission to reject any proposed integration charges at this time, including the $2.29/MWh interim integration charge.

III. The Record Demonstrates that Witness Burgess's Proposed $0.96/MWh Charge Addresses More of the DESC/Navigant Flaws than the Approved $2.29/MWh Charge

There is insufficient evidence to support an interim integration charge of $2.29/MWh charge, as discussed above. Conservation Groups request that no integration charge be imposed in this proceeding. If the Commission is set on approving an interim integration charge, it is worth noting that there is no basis for selecting the $2.29/MWh charge over SBA Witness Burgess's proposed solar integration charge of $0.96/MWh, which addresses more of the flaws with the underlying DESC/Navigant study. The Commission's Order did not acknowledge Witness Burgess's proposed charge or adjustments.

As an alternative to imposing no integration charge, Witness Burgess's proposed $0.96/MWh charge addresses and adjusts for several of the Navigant Study's methodological flaws and inappropriate inputs, whereas the $2.29/MWh interim charge only addresses one of numerous flaws.[59] Witness Burgess included adjustments to account for: 1) operating reserve changes during solar hours only (versus all 8760

[58] *See also* Partial Proposed Order of the Southern Alliance for Clean Energy and South Carolina Coastal Conservation League at pp. 41-43 (proposing language for the Commission on this particular issue). Conservation Groups also raise here whether the Commission is authorized at all to issue interim rates under the Energy Freedom Act. *See* S.C. Code Ann. § 58-41-05 *et seq.* (setting forth provisions for determining avoided cost rates but not explicitly mentioned interim rates).

[59] Tr. Vol. 2, p. 523.93, ll. 1-2

hours); 2) reduced volatility profile due to geographic diversity (beyond 4 sites); 3) non-islanded operation (rest of Eastern Interconnection); 4) use of hourly or sub-hourly solar forecast and dispatch; and 5) improvements in intra-hour dispatch, including regionally coordinated imbalance services (not attributable to QFs).[60] Witness Horii's methodology only addressed one of the flaws in the Navigant Study: risk of solar forecast error. Power Advisory acknowledged that Witness Horii's one correction would not produce an accurate estimate of solar integration costs: "[w]e do not support the specific calculations [Witness Horii] used to arrive at $2.29/MWh, because it is based on Navigant's analysis, which is flawed in several ways, only one of which Mr. Horii attempts to correct."[61] The Commission's Order also acknowledged Witness Horii's "other concerns over the Navigant costs being biased upwards," yet nonetheless adopted $2.29/MWh as an interim VIC and EIC charge on solar QFs.[62]

The record lacks substantial evidence for the Commission's approval of Witness Horii's proposal and not Witness Burgess's recommendation, which addressed more of the underlying deficiencies than any other proposal in the proceeding. While the Conservation Groups' primary recommendation is that the Commission reject any solar integration charge at this time given DESC's failure to meet its burden of proof on this issue, if the Commission determines that it is necessary to approve a charge, Witness Burgess's $0.96/MWh charge should be adopted because it addresses more of the flaws in the DESC/Navigant analysis than Witness Horii's $2.29/MWh valuation.

[60] Tr. Vol. 2, p. 523.92, ln. 1.
[61] Power Advisory Report at p. 24.
[62] Order on Avoided Costs at p. 56.

CONCLUSION AND REQUEST FOR RELIEF

Electric utilities in South Carolina bear the burden of proving that their proposed rates are just and reasonable. When the utility fails to meet its burden of proof, the utility's proposed rates must be rejected. That is the case here, as DESC has failed to meet its burden of proof that any integration charge should be imposed in this proceeding. Unfortunately, the alternative and interim integration charge proposed by Witness Horii and adopted by the Commission is based on the same flawed assumptions and inputs underlying DESC/Navigant analysis, while correcting for just one of many identified flaws and errors. Conservation Groups respectfully request that the Commission reconsider its determination that an interim integration charge of $2.29/MWh should be imposed on solar QFs and instead reject any VIC or EIC in this proceeding.[63] Both Mr. Horii and Power Advisory readily admitted that there was a lack of substantial evidence to approve DESC/Navigant's proposed integration charges, and that Mr. Horii's alternative recommendation was based on the same underlying and flawed analysis, while correcting for just one of the underlying flaws.

Conservation Groups respectfully request that the Commission reject any VIC or EIC in this proceeding, including any interim integration charge. In the alternative, Witness Burgess's proposed $0.96/MWh interim charge should be adopted, as it addressed more of the identified flaws in the DESC/Navigant analysis than Mr. Horii's valuation.

[63] Conservation Groups note that the Commission has already initiated the process for an independent integration study pursuant to the Energy Freedom Act, which should inform any future analyses and proposals by DESC or others regarding a VIC or EIC proposal in future avoided cost proceedings.

Respectfully submitted this the 19th day of December.

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CERTIFICATE OF SERVICE

I hereby certify that the parties listed below have been served via electronic mail with a copy of the *Petition for Reconsideration or Rehearing* filed on behalf of the South Carolina Coastal Conservation League and Southern Alliance for Clean Energy.

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This 19th day of December, 2019.

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